Figure 1

ATGACCTCACTGCCCCCTGGAACCACTGGGGACCCCGATTTGTTTTCTGGGC
CGTCGCCAGCCGGCTCCACTCCAGCCAACCAGAGTGCAGAGGCTTCAGAGAG
CAATGTGTCTGCGACGGTTCCCAGAGCTGCAGCAGTCACGCCGTTCCAGAGC
CTGCAACTAGTGCACCAGCTGAAGGGACTGATCGTGATGCTGTACAGCATCG
TGGTGGTCGTGGGTCTGGTGGGCAACTGCCTTCTTGTGCTGGTGATCGCGCG
CGTGCGCCGGCTGCACAACGTGACCAACTTCCTCATCGGCAACCTGGCCTTG
TCCGATGTGCTCATGTGTGCCGCCTGTGTGCCTCTCACGCTGGCCTACGCCT
TTGAACCTCGTGGCTGGGTGTTCGGTGGAGGCCTGTGCCACCTTGTTTTCTT
CCTGCAGCCGGTCACCGTCTACGTATCGGTGTTCACACTCACCACAATCGCT
GTGGACCGCTATGTGGTTCTGGTGCACCCGCTACGTCGGCGCATTTCACTGA
AGCTCAGCGCCTACGCTGTGCTGGGCATCTGGGCTCTATCTGCAGTGCTGGC
GCTGCCGGCCGCGGTGCACACCTACCATGTAGAGCTCAAGCCCCACGACGTG
CGCCTCTGCGAGGAGTTCTGGGGTTCGCAGGAGCGCCAGCGACAGATCTATG
CCTGGGGGCTGCTGCTGGGCACCTATTTGCTCCCCCTGCTGGCCATTCTCCT
GTCTTACGTCCGGGTGTCGGTGAAGTTGCGGAACCGCGTGGTGCCTGGCAGC
GTGACCCAGAGCCAGGCTGACTGGGACCGAGCGCGTCGCCGTCGCACTTTCT
GCCTGCTGGTGGTGGTGGTGGTCGTGTTCGCGGTCTGCTGGCTGCCTCTGCA
CATTTTCAACCTGCTGCGGGACCTGGACCCGCGTGCCATCGACCCCTACGCC
TTCGGGCTGGTGCAGCTCCTCTGCCACTGGCTTGCCATGAGCTCCGCCTGCT
ACAACCCCTTCATCTATGCGTGGCTGCACGACAGCTTCCGAGAGGAGCTACG
CAAGATGCTTCTGTCTTGGCCCCGCAAGATCGTGCCTCATGGCCAGAATATG
ACCGTCAGTGTGGTCATCTGA (SEQ ID NO:1)

Figure 2

ATAACCTCACTGCCCCCTGGAACCACTGGGGACCCCGATTTGTTTTCTGGGC
CGTCGCCAGCCGGCTCCACTCCAGCCAACCAGAGTGCAGAGGCTTCAGAGAG
CAATGTGTCTGCGACGGTTCCCAGAGCTGCAGCAGTCACGCCGTTCCAGAGC
CTGCAACTAGTGCACCAGCTGAAGGGACTGATCGTGATGCTGTACAGCATCG
TGGTGGTCGTGGGTCTGGTGGGCAACTGCCTTCTTGTGCTGGTGATCGCGCG
CGTGCGCCGGCTGCACAACGTGACCAACTTCCTCATCGGCAACCTGGCCTTG
TCCGATGTGCTCATGTGTGCCGCCTGTGTGCCTCTCACGCTGGCCTACGCCT
TTGAACCTCGTGGCTGGGTGTTCGGTGGAGGCCTGTGCCACCTTGTTTTCTT
CCTGCAGCCGGTCACCGTCTACGTATCGGTGTTCACACTCACCACAATCGCT
GTGGACCGCTATGTGGTTCTGGTGCACCCGCTACGTCGGCGCATTTCACTGA
AGCTCAGCGCCTACGCTGTGCTGGGCATCTGGGCTCTATCTGCAGTGCTGGC
GCTGCCGGCCGCGGTGCACACCTACCATGTAGAGCTCAAGCCCCACGACGTG
CGCCTCTGCGAGGAGTTCTGGGGTTCGCAGGAGCGCCAGCGACAGATCTATG
CCTGGGGGCTGCTGCTGGGCACCTATTTGCTCCCCCTGCTGGCCATTCTCCT
GTCTTACGTCCGGGTGTCGGTGAAGTTGCGGAACCGCGTGGTGCCTGGCAGC
GTGACCCAGAGCCAGGCTGACTGGGACCGAGCGCGTCGCCGTCGCACTTTCT
GCCTGCTGGTGGTGGTGGTGGTCGTGTTCGCGGTCTGCTGGCTGCCTCTGCA
CATTTTCAACCTGCTGCGGGACCTGGACCCGCGTGCCATCGACCCCTACGCC
TTCGGGCTGGTGCAGCTCCTCTGCCACTGGCTTGCCATGAGCTCCGCCTGCT
ACAACCCCTTCATCTATGCGTGGCTGCACGACAGCTTCCGAGAGGAGCTACG
CAAGATGCTTCTGTCTTGGCCCCGCAAGATCGTGCCTCATGGCCAGAATATG
ACCGTCAGTGTGGTCATCTGA (SEQ ID NO:2)

Figure 3

ATGGCCTCATCGACCACTCGGGGCCCCAGGGTTTCTGACTTATTTTCTGGGC
TGCCGCCGGCGGTCACAACTCCCGCCAACCAGAGCGCAGAGGCCTCGGCGGG
CAACGGGTCGGTGGCTGGCGCGGACGCTCCAGCCGTCACGCCCTTCCAGAGC
CTGCAGCTGGTGCATCAGCTGAAGGGGCTGATCGTG (SEQ ID NO:3)

Figure 4

ATGGCCTCATCGACCACTCGGGGCCCCAGGGTTTCTGACTTATTTTCTGGGC
TGCCGCCGGCGGTCACAACTCCCGCCAACCAGAGCGCAGAGGCCTCGGCGGG
CAACGGGTCGGTGGCTGGCGCGGACGCTCCAGCCGTCACGCCCTTCCAGAGC
CTGCAGCTGGTGCATCAGCTGAAGGGGCTGATCGTGCTGCTCTACAGCGTCG
TGGTGGTCGTGGGGCTGGTGGGCAACTGCCTGCTGGTGCTGGTGATCGCGCG
GGTGCGCCGGCTGCACAACGTGACGAACTTCCTCATCGGCAACCTGGCCTTG
TCCGACGTGCTCATGTGCACCGCCTGCGTGCCGCTCACGCTGGCCTATGCCT
TCGAGCCACGCGGCTGGGTGTTCGGCGGCGGCCTGTGCCACCTGGTCTTCTT
CCTGCAGCCGGTCACCGTCTATGTGTCGGTGTTCACGCTCACCACCATCGCA
GTGGACCGCTACGTCGTGCTGGTGCACCCGCTGAGGCGGCGCATCTCGCTGC
GCCTCAGCGCCTACGCTGTGCTGGCCATCTGGGCGCTGTCCGCGGTGCTGGC
GCTGCCCGCCGCCGTGCACACCTATCACGTGGAGCTCAAGCCGCACGACGTG
CGCCTCTGCGAGGAGTTCTGGGGCTCCCAGGAGCGCCAGCGCCAGCTCTACG
CCTGGGGGCTGCTGCTGGTCACCTACCTGCTCCCTCTGCTGGTCATCCTCCT
GTCTTACGTCCGGGTGTCAGTGAAGCTCCGCAACCGCGTGGTGCCGGGCTGC
GTGACCCAGAGCCAGGCCGACTGGGACCGCGCTCGGCGCCGGCGCACCTTCT
GCTTGCTGGTGGTGGTCGTGGTGGTGTTCGCCGTCTGCTGGCTGCCGCTGCA
CGTCTTCAACCTGCTGCGGGACCTCGACCCCCACGCCATCGACCCTTACGCC
TTTGGGCTGGTGCAGCTGCTCTGCCACTGGCTCGCCATGAGTTCGGCCTGCT
ACAACCCCTTCATCTACGCCTGGCTGCACGACAGCTTCCGCGAGGAGCTGCG
CAAACTGTTGGTCGCTTGGCCCCGCAAGATAGCCCCCCATGGCCAGAATATG
ACCGTCAGCGTGGTCATC (SEQ ID NO:4)

Figure 5

ATGCTCTACAGCGTCGTGGTGGTCGTGGGGCTGGTGGGCAACTGCCTGCTGG
TGCTGGTGATCGCGCGGGTGCGCCGGCTGCACAACGTGACGAACTTCCTCAT
CGGCAACCTGGCCTTGTCCGACGTGCTCATGTGCACCGCCTGCGTGCCGCTC
ACGCTGGCCTATGCCTTCGAGCCACGCGGCTGGGTGTTCGGCGGCGGCCTGT
GCCACCTGGTCTTCTTCCTGCAGCCGGTCACCGTCTATGTGTCGGTGTTCAC
GCTCACCACCATCGCAGTGGACCGCTACGTCGTGCTGGTGCACCCGCTGAGG
CGGCGCATCTCGCTGCGCCTCAGCGCCTACGCTGTGCTGGCCATCTGGGCGC
TGTCCGCGGTGCTGGCGCTGCCCGCCGCCGTGCACACCTATCACGTGGAGCT
CAAGCCGCACGACGTGCGCCTCTGCGAGGAGTTCTGGGGCTCCCAGGAGCGC
CAGCGCCAGCTCTACGCCTGGGGGCTGCTGCTGGTCACCTACCTGCTCCCTC
TGCTGGTCATCCTCCTGTCTTACGTCCGGGTGTCAGTGAAGCTCCGCAACCG
CGTGGTGCCGGGCTGCGTGACCCAGAGCCAGGCCGACTGGGACCGCGCTCGG
CGCCGGCGCACCTTCTGCTTGCTGGTGGTGGTCGTGGTGGTGTTCGCCGTCT
GCTGGCTGCCGCTGCACGTCTTCAACCTGCTGCGGGACCTCGACCCCCACGC
CATCGACCCTTACGCCTTTGGGCTGGTGCAGCTGCTCTGCCACTGGCTCGCC
ATGAGTTCGGCCTGCTACAACCCCTTCATCTACGCCTGGCTGCACGACAGCT
TCCGCGAGGAGCTGCGCAAACTGTTGGTCGCTTGGCCCCGCAAGATAGCCCC
CCATGGCCAGAATATGACCGTCAGCGTGGTCATCTGA (SEQ ID NO:5)

Figure 6

MTSLPPGTTGDPDLFSGPSPAGSTPANQSAEASESNVSATVPRAAAVTPFQS
LQLVHQLKGLIVMLYSIVVVVGLVGNCLLVLVIARVRRLHNVTNFLIGNLAL
SDVLMCAACVPLTLAYAFEPRGWVFGGGLCHLVFFLQPVTVYVSVFTLTTIA
VDRYVVLVHPLRRRISLKLSAYAVLGIWALSAVLALPAAVHTYHVELKPHDV
RLCEEFWGSQERQRQIYAWGLLLGTYLLPLLAILLSYVRVSVKLRNRVVPGS
VTQSQADWDRARRRRTFCLLVVVVVVFALCWLPLHIFNLLRDLDPRAIDPYA
FGLVQLLCHWLAMSSACYNPFIYAWLHDSFREELRKMLLSWPRKIVPHGQNM
TVSVVI (SEQ ID NO:6))

Figure 7

MLYSIVVVVGLVGNCLLVLVIARVRRLHNVTNFLIGNLALSDVLMCAACVPL
TLAYAFEPRGWVFGGGLCHLVFFLQPVTVYVSVFTLTTIAVDRYVVLVHPLR
RRISLKLSAYAVLGIWALSAVLALPAAVHTYHVELKPHDVRLCEEFWGSQER
QRQIYAWGLLLGTYLLPLLAILLSYVRVSVKLRNRVVPGSVTQSQADWDRAR
RRRTFCLLVVVVVVFALCWLPLHIFNLLRDLDPRAIDPYAFGLVQLLCHWLA
MSSACYNPFIYAWLHDSFREELRKMLLSWPRKIVPHGQNMTVSVVI (SEQ
ID NO:7)

Figure 8

MASSTTRGPRVSDLFSGLPPAVTTPANQSAEASAGNGSVAGADAPAVTPFQS
LQLVHQLKGLIVTLYSVVVVVGLVGNCLLVLVIARVRRLHNVTNFLIGNLAL
SDVLMCTACVPLTLAYAFEPRGWVFGGGLCHLVFFLQPVTVYVSVFTLTTIA
VDRYVVLVHPLRRRISLRLSAYAVLAIWALSAVLALPAAVHTYHVELKPHDV
RLCEEFWGSQERQRQLYAWGLLLVTYLLPLLVILLSYVRVSVKLRNRVVPGC
VTQSQADWDRARRRRTFCLLVVVVVVFAVCWLPLHVFNLLRDLDPHAIDPYA
FGLVQLLCHWLAMSSACYNPFIYAWLHDSFREELRKLLVAWPRKIAPHGQNM
TVSVVI (SEQ ID NO:8)

Figure 9

MLYSVVVVVGLVGNCLLVLVIARVRRLHNVTNFLIGNLALSDVLMCTACVPL
TLAYAFEPRGWVFGGGLCHLVFFLQPVTVYVSVFTLTTIAVDRYVVLVHPLR
RRISLRLSAYAVLAIWALSAVLALPAAVHTYHVELKPHDVRLCEEFWGSQER
QRQLYAWGLLLVTYLLPLLVILLSYVRVSVKLRNRVVPGCVTQSQADWDRAR
RRRTFCLLVVVVVVFAVCWLPLHVFNLLRDLDPHAIDPYAFGLVQLLCHWLA
MSSACYNPFIYAWLHDSFREELRKLLVAWPRKIAPHGQNMTVSVVI (SEQ
ID NO:9)

Figure 10

MASSTTRGPRVSDLFSGLPPAVTTPANQSAEASAGNGSVAGADAPAVTPFQS
LQLVHQLKGLIV (SEQ ID NO:10)

Figure 11

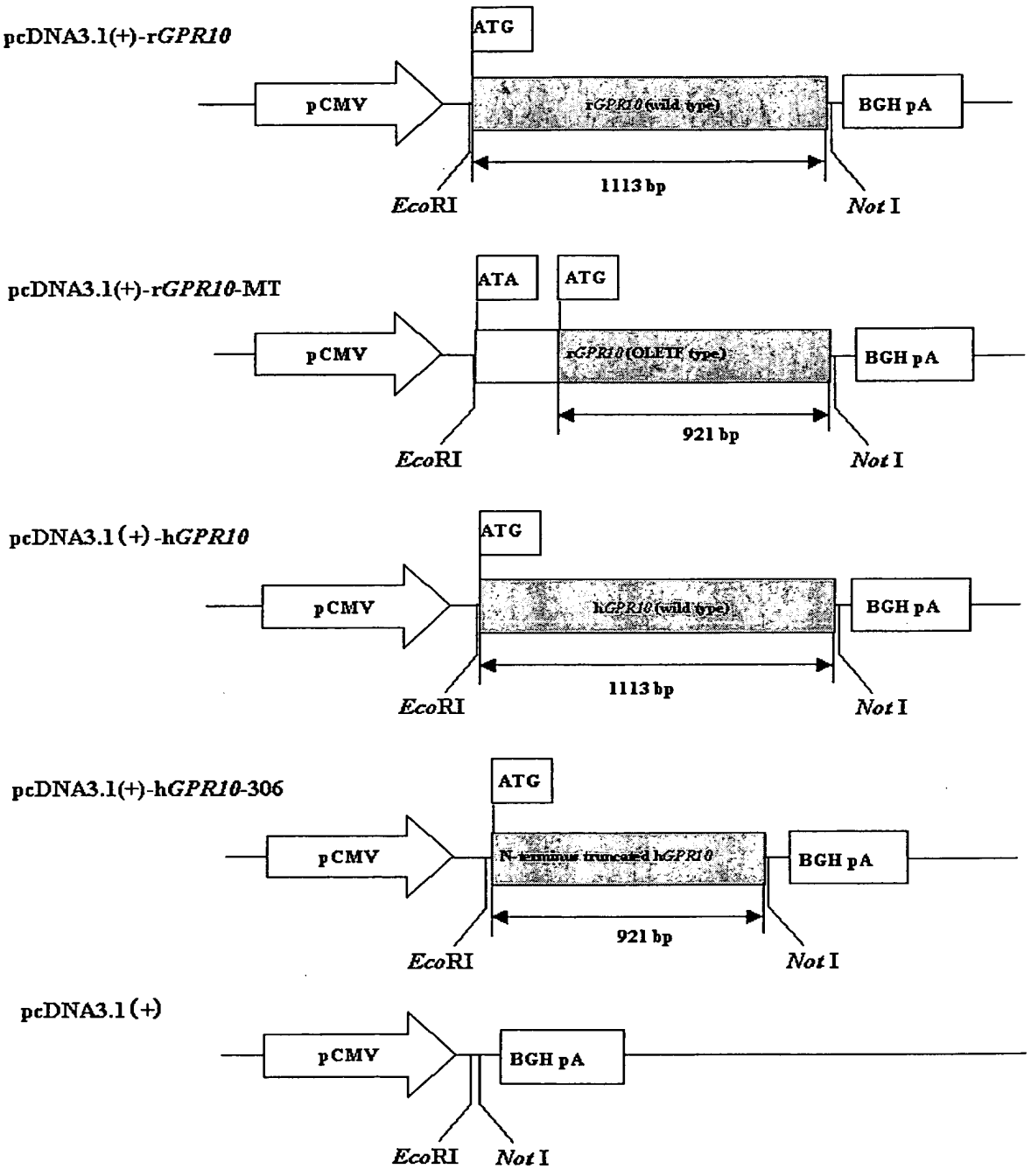

pcDNA3.1(+)-rGPR10
ATG
pCMV
rGPR10 (wild type)
BGH pA
1113 bp
EcoRI
Not I
pcDNA3.1(+)-rGPR10-MT
ATA
ATG
pCMV
rGPR10 (OLETF type)
BGH pA
921 bp
EcoRI
Not I
pcDNA3.1(+)-hGPR10
ATG
pCMV
hGPR10 (wild type)
BGH pA
1113 bp
EcoRI
Not I
pcDNA3.1(+)-hGPR10-306
ATG
pCMV
N-terminus truncated hGPR10
BGH pA
921 bp
EcoRI
Not I
pcDNA3.1(+)
pCMV
BGH pA
EcoRI
Not I

Figure 12

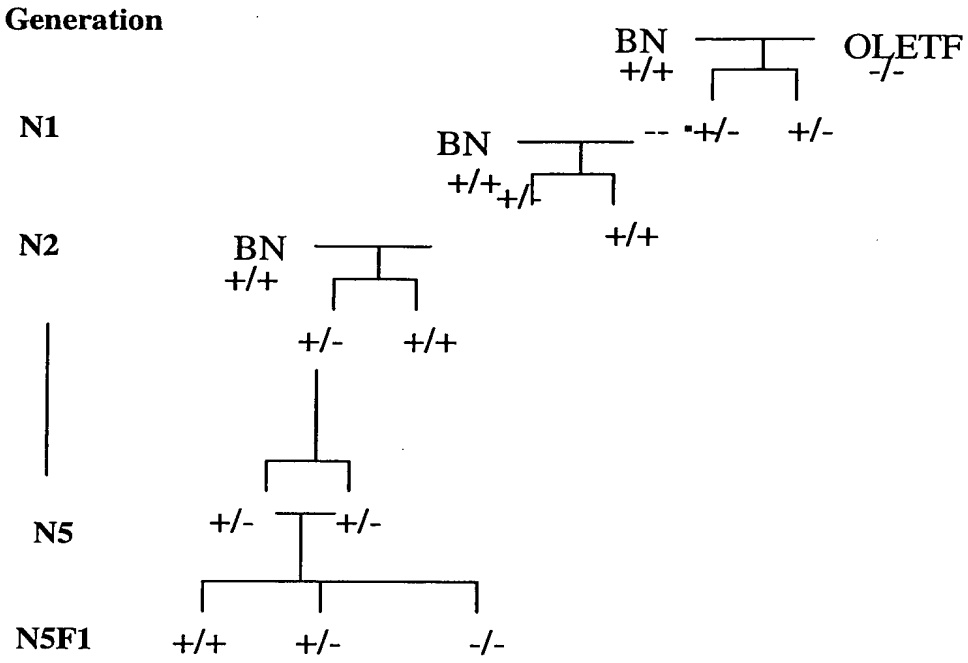


Figure 13

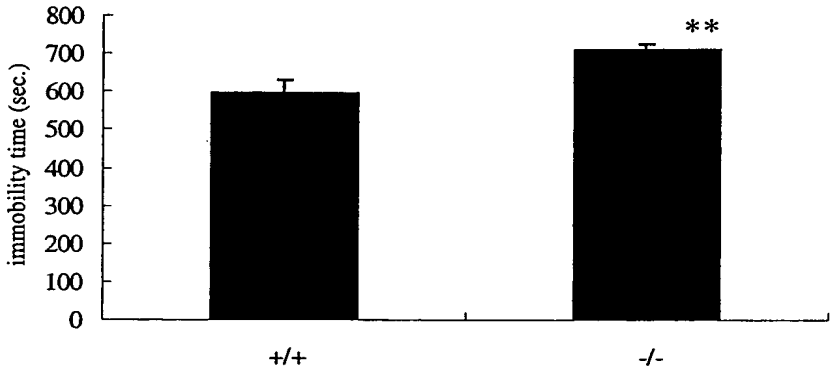


Figure 14

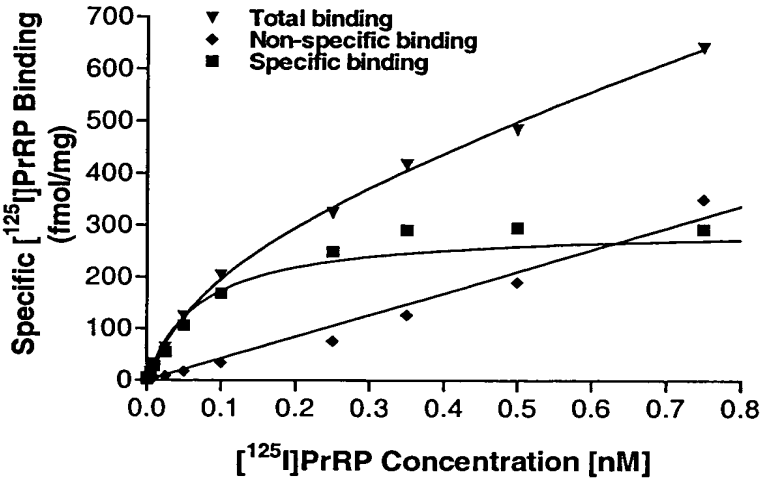

Total binding
Non-specific binding
Specific binding
Specific [125I]PrRP Binding (fmol/mg)
700
600
500
400
300
200
100
0
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
[125I]PrRP Concentration [nM]

Figure 15

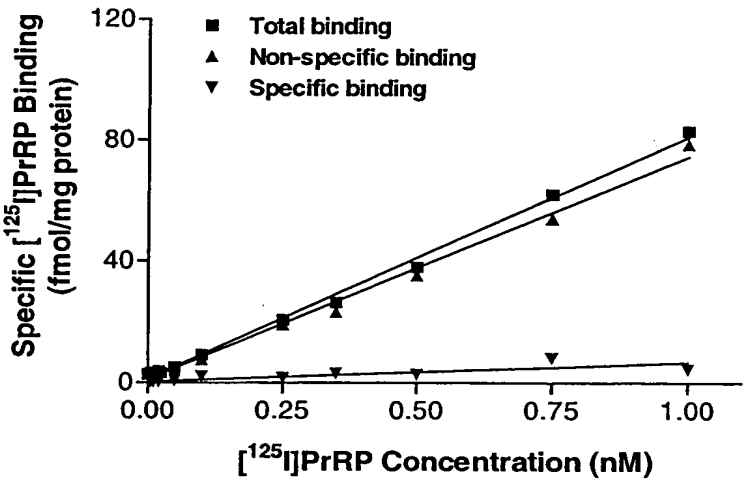

Specific [125I]PrRP Binding
(fmol/mg protein)
120
80
40
0
Total binding
Non-specific binding
Specific binding
0.00
0.25
0.50
0.75
1.00
[125I]PrRP Concentration (nM)

Figure 16

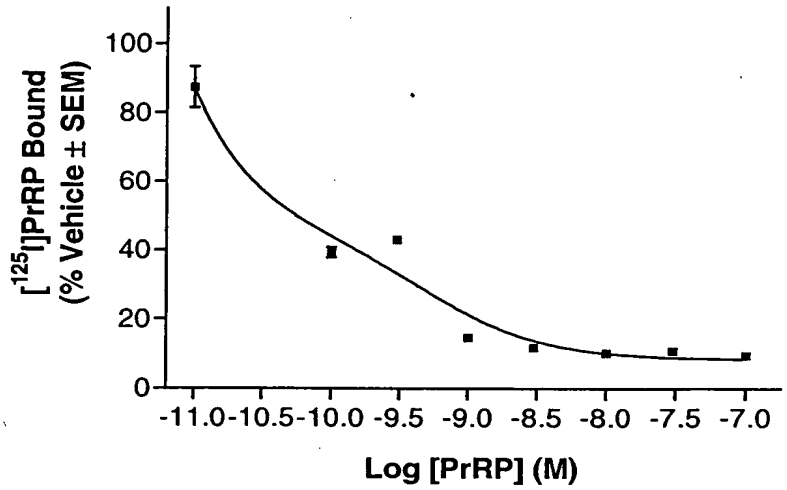

[125I]PrRP Bound
(% Vehicle ± SEM)
100
80
60
40
20
0
-11.0 -10.5 -10.0 -9.5 -9.0 -8.5 -8.0 -7.5 -7.0
Log [PrRP] (M)

Figure 17

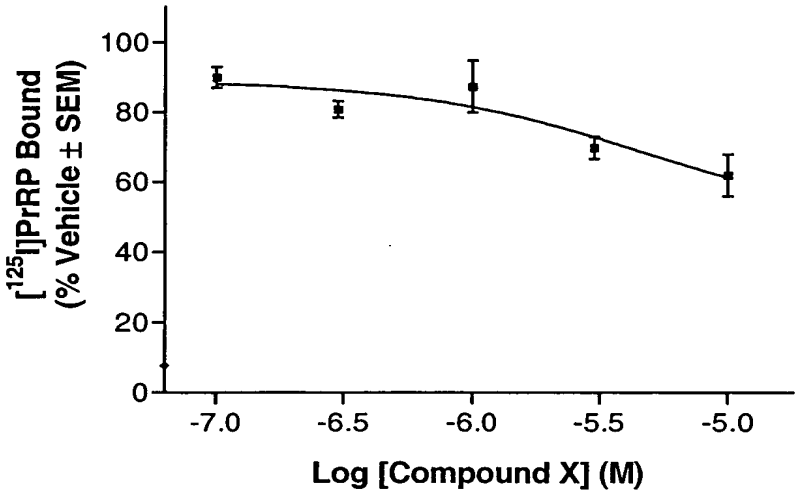

[125I]PrRP Bound
(% Vehicle ± SEM)
100
80
60
40
20
0
-7.0
-6.5
-6.0
-5.5
-5.0
Log [Compound X] (M)

Figure 18

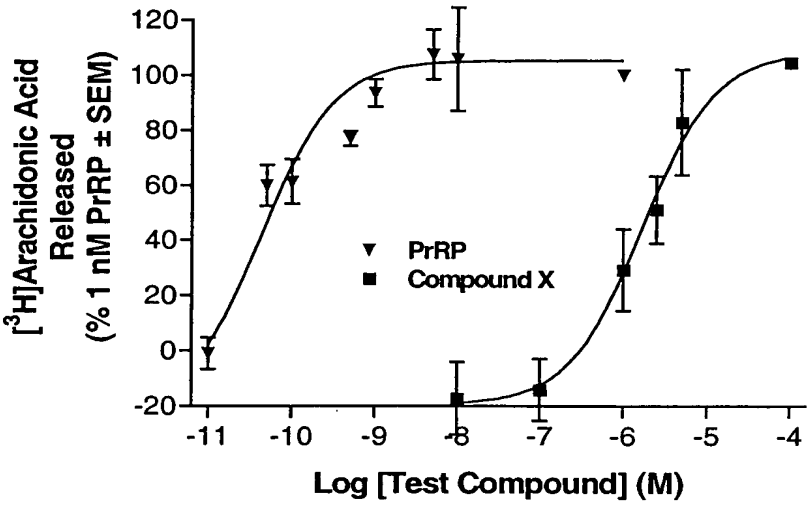

[3H]Arachidonic Acid Released (% 1 nM PrRP ± SEM)
120
100
80
60
40
20
0
-20
-11
-10
-9
-8
-7
-6
-5
-4
PrRP
Compound X
Log [Test Compound] (M)

Figure 19

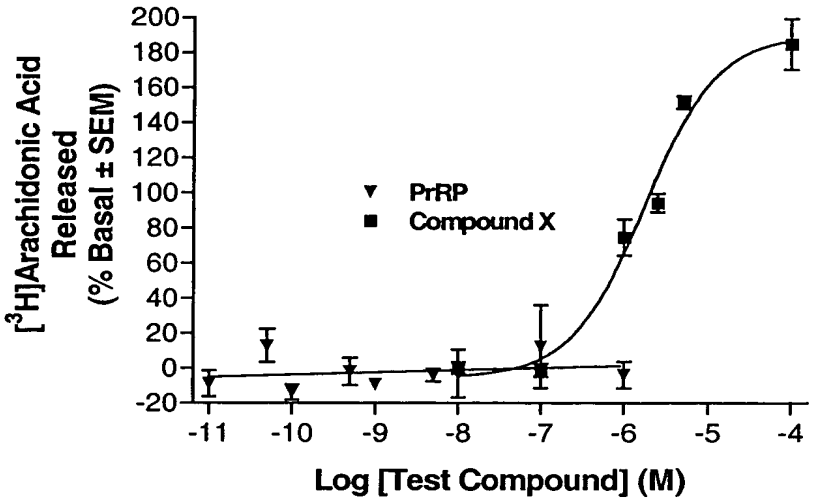

[3H]Arachidonic Acid Released (% Basal ± SEM)
200
180
160
140
120
100
80
60
40
20
0
-20
PrRP
Compound X
-11
-10
-9
-8
-7
-6
-5
-4
Log [Test Compound] (M)

Figure 20

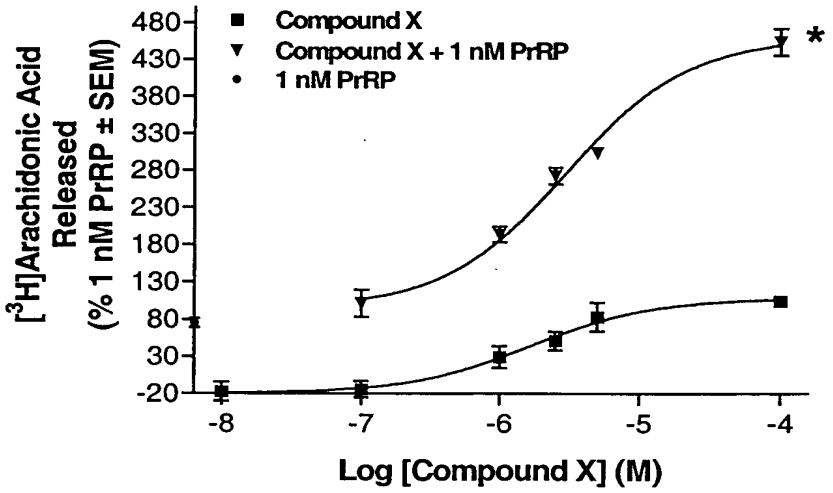
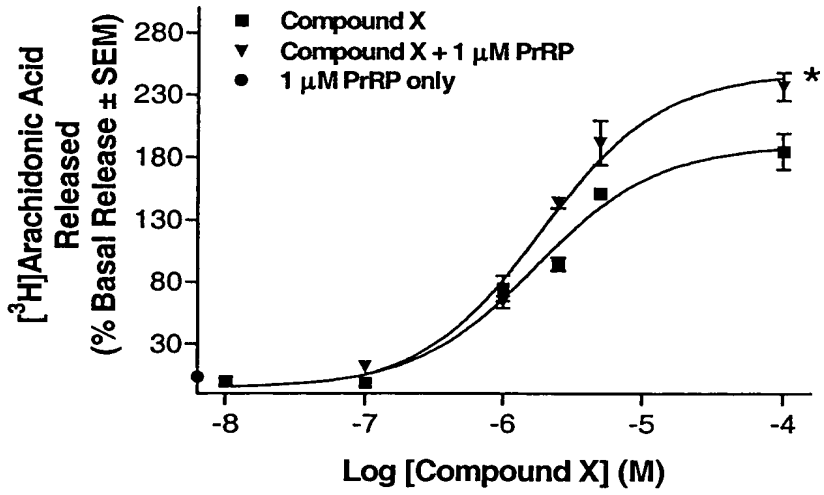

Compound X
Compound X + 1 nM PrRP
1 nM PrRP
[3H]Arachidonic Acid Released (% 1 nM PrRP ± SEM)
480
430
380
330
280
230
180
130
80
30
-20
-8
-7
-6
-5
-4
Log [Compound X] (M)
*

Figure 21


Compound X
Compound X + 1 μM PrRP
1 μM PrRP only
[3H]Arachidonic Acid Released (% Basal Release ± SEM)
280
230
180
130
80
30
-8
-7
-6
-5
-4
Log [Compound X] (M)
*